

AMENDMENTS TO THE SPECIFICATION:

Please replace the paragraph beginning at page 1, line 18, with the following amended paragraph:

This invention relates ~~according to claim 4~~ to a method of depositing a MCrAlY-coating.

Please replace the paragraph beginning at page 2, line 4, with the following amended paragraph:

Among γ/γ' - and γ/β -coatings, the field of γ/β -coatings have been an active area of research and a series of patents has been issued. E.g., a NiCrAlY coating is described in US-A-3,754,903 and a CoCrAlY coating in US-A-3,676,085. US-A 4,346,137 discloses an improved high temperature fatigue resistance NiCoCrAlY coating. US-A-4,419,416, US-A-4,585,481, RE-32,121 and ~~US-A-A-4,743,514~~ US-A-4,743,514 describe MCrAlY coatings containing Si and Hf. US-A-4,313,760 discloses a superalloy coating composition with good oxidation, corrosion and fatigue resistance. Additional examples MCrAlY coatings are known from US-B1-6,280,857, US-B1-6,221,181, US-A-5,455,119, US-A-5,154,885, ~~US-A-5,035,958~~ US-A-5,035,958 or US-B1-6,207,297. They all deal primarily with improving the oxidation resistance of MCrAlY coatings.

Please replace the paragraph beginning at page 2, line 16, with the following amended paragraph:

Thermal barrier coatings are used to provide thermal insulation of the components in various types of engines, e.g., in turbine engines. Furthermore, in the

state of the art, Thermal Barrier Coatings (TBC) are known from different patents. US-A-4,055,705, US-A-4,248,940, US-A-4,321,311 or US-A-4,676,994 disclose a TBC-coating for the use in the turbine blades and vanes. The ceramics used are yttria stabilized zirconia and applied by plasma spray (~~US-A-4,055,705, US-A-4,055,705~~ US-A-4,248,940 and US-A-4,248,940) or by electron beam process (~~US-A-4,321,311, U.S. Pat. No. 4,676,994~~ US-A-4,321,311 and US-A-4,676,994) on top of the MCrAlY bond coat.

Please replace the paragraph beginning at page 2, line 25, with the following amended paragraph:

It is generally known in the industry that the coatings on turbine blades or vanes can fail by one or more of the following degradation modes. These are oxidation, corrosion, TMF (Thermal Mechanical Fatigue) and a combination of TMF and oxidation. Coatings failure in a turbine engine solely by oxidation is not a typical scenario. Further, in advanced turbine engines, incidences of corrosion are not common due to higher engine operating temperature and use of cleaner fuels. What is commonly observed is that the MCrAlY coatings are cracked by TMF. Subsequently the cracks allow oxygen to diffuse or penetrate into the substrate. Since the substrate is not oxidation resistant, the advancing oxygen (through the cracks) causes the oxidation of the underlying substrate and triggers the failure of the components. It is therefore important that the coatings be resistant to fatigue as well as oxidation since fatigue cracking appears to be one of the primary triggering mechanisms of the failure of the coatings.

Please replace the paragraph beginning at page 3, line 10, with the following amended paragraph:

US-A-4,346,137 and US-A-4,758,480 described a method of improving the fatigue resistance of overlay coatings by a modification of composition. In ~~US-A-4, 346,137, US-A-4,346,137,~~ US-A-4,346,137, the platinum was added to MCrAlY coatings, which reduces the thermal expansion mismatch between the coatings and the substrate, hence also reduces the propensity of the coatings to cracking. This results in a significant improvement of the TMF life of the coatings. On the other hand, ~~the US-A-4,758,480~~ discloses a class of protected coatings for superalloys in which the coating compositions are based on the composition of the underlying substrate. By tailoring the coatings to the substrate composition, diffusional stability results and other mechanical properties of the coating, such as coefficient of thermal expansion and ~~modulus~~ modulus, are brought closer to the substrate. The coatings thus obtained showed both increased oxidation and TMF resistance.

Please replace the paragraph beginning at page 5, line 12, with the following amended paragraph:

According to the invention, a method of deposition of a MCrAlY-coating was found as described ~~in the features of the claim 1~~ herein.

Please replace the paragraph beginning at page 5, line 31, with the following amended paragraph:

The coating/masking step can be repeated at different local areas on the surface of the article before the conversion of the deposited MCrAlY-coating ~~in~~ into

single crystal form. The different areas can be coated with different MCrAlY-coatings. The MCrAlY-coatings are ~~the~~ selected according to the required properties in ~~said~~ the areas in respect to one or a combination of oxidation, corrosion, and thermal mechanical fatigue (TMF). As mask material, wax and organic polymers are suitable.

Please replace the paragraph beginning at page 6, line 6, with the following amended paragraph:

Examples of coatings, that can be conveniently used for local coating and subsequent conversion to single crystal can be γ/γ' or γ/β -MCrAlY coatings. Examples of ~~composition~~ compositions of γ/γ' are Ni-25Cr-6Al-0.4Y and Ni-Ni-16.5Cr-5.5Al-0.4Y and that of γ/β -MCrAlY is Ni-40Co-23Cr-8Al-1Ta-0.4Si-0.4Y, or known from ~~the unpublished patent application with application no. EP01122819.4 (internal reference number B01/140-0)~~ European Application No. EP 1 295 970 A1, or from ~~the unpublished patent application with application no. EP01122818.6 (internal reference number B01/141-0)~~ European Application No. EP 1 295 969 A1, both of which have the same applicant as the present application.

Please replace the paragraph beginning at page 8, line 11, with the following amended paragraph:

The different areas can be coated with different MCrAlY-coatings 6. The MCrAlY-coatings are ~~the~~ selected according to the required properties in ~~said~~ the areas in respect to one or a combination of oxidation, corrosion, and thermal mechanical fatigue (TMF). One example of a localized coating could be the TMF

resistant coating on the platform/airfoil transition area of gas turbine blades and vanes and a highly oxidation resistant coating provided on the upper airfoil - the tip section.

Please replace the paragraph beginning at page 8, line 31, with the following amended paragraph:

As an example of the invention, as shown in FIG. 2, a re-melting track is on a coated single crystal substrate. In this case a polycrystalline surface layer of about 0.3 mm thickness has been remolten with a high power laser beam. The processing parameters were chosen such that the laser treatment resulted in an epitaxial solidification transforming the originally ~~polycrystalline~~ polycrystalline surface layer into a single crystal coating. In FIG. 2, the matched orientation of the (fine) dendrites in the remolten area can be seen.